

**WHAT IS CLAIMED IS:**

1. A detector for detecting at least one organophosphorus or carbamate compound comprising the enzyme acetylcholinesterase immobilized in a sol-gel or a membrane, wherein the enzyme is inhibited by at least one of the organophosphorus or carbamate compounds.

2. A method for detecting at least one organophosphorus or carbamate compound in a sample comprising contacting said sample with enzyme acetylcholinesterase immobilized in a sol-gel or a membrane, wherein the enzyme is inhibited by at least one of the organophosphorus or carbamate compounds.

3. The method according to claim 2 wherein the sample is contacted with acetylcholinesterase immobilized in a sol-gel or a membrane wherein the pH ranges from about 5.95 to about 11.52.

4. The method according to claim 2 wherein the compound detected is an organophosphorus compound and 1% bromine is added to the organophosphorus compound prior to addition to the immobilized enzyme.

5. The method according to claim 2 wherein the enzyme is immobilized in a sol-gel.

6. The method according to claim 2 wherein the enzyme is immobilized in a membrane.

7. A detector for detecting at least one compound selected from the group consisting of organophosphorus and carbamate compounds which are inhibitors for the enzyme acetylcholinesterase, wherein the actcylcholinesterase is immobilized in a sol-gel or in a membrane, wherein said sol-gel or said membrane is packaged so that when a test is conducted the enzyme is exposed to ambient conditions.

8. The detector according to claim 7 wherein the enzyme is immobilized in a sol-gel.

9. The detector according to claim 7 wherein the enzyme is immobilized in a membrane.

10. The detector according to claim 7 wherein the package comprises a semipermeable polyethylene bag which is opened after exposure of the enzyme to inhibitor to commence the enzyme assay.